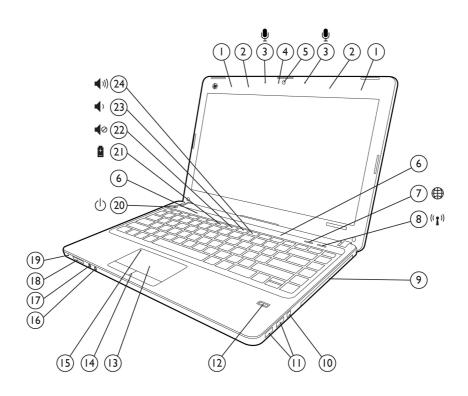
HP ProBook 4330s Notebook PC HP ProBook 4430s Notebook PC HP ProBook 4530s Notebook PC HP ProBook 4730s Notebook PC

Overview

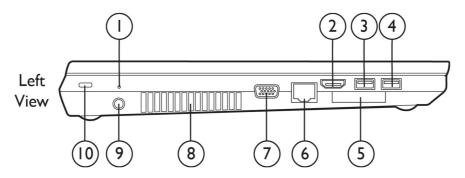


- 1. WWAN antennas (select models)
- 2. WLAN antennas
- 3. Dual-microphone array\*
- 4. Webcam LED indicator (with optional webcam)
- 5. Optional HD webcam
- 6. Stereo speakers
- 7. HP QuickWeb button with LED indicator
- 8. Wireless on/off button with LED indicator
- 9. Optical drive (select models)
- 10. Optional RJ-11/modem port
- 11. (2) USB 2.0 ports
- 12. Optional HP Fingerprint Sensor

- 13. Touchpad
- 14. Touchpad pick buttons
- 15. Touchpad on/off button with LED indicator
- 16. Stereo microphone in
- 17. Stereo headphone/line out
- 18. Media Card Reader
- 19. Hard drive activity LED indicator
- 20. Power button with LED indicator
- 21. HP Power Assistant function key
- 22. Volume mute function key
- 23. Volume down function key
- 24. Volume up function key
- \* Models without optional webcam have single integrated microphone.

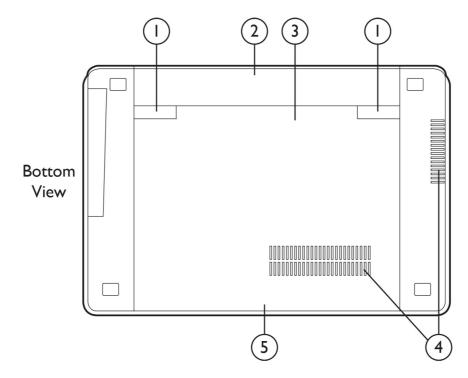
HP ProBook 4330s Notebook PC HP ProBook 4430s Notebook PC HP ProBook 4530s Notebook PC HP ProBook 4730s Notebook PC

Overview



- 1. Battery charging LED indicator
- 2. HDMI 1.3a port
- 3. USB 2.0 port
- 4. USB 3.0 port (select models)
- 5. ExpressCard/34 slot

- 6. RJ-45/Ethernet port
- 7. VGA/external monitor connector
- 8. Vent
- 9. Power connector
- 10. Security lock slot



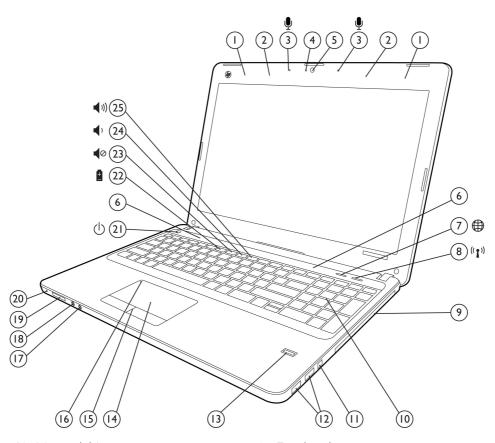
- 1. Battery and access cover release latches
- 2. Battery bay
- 3. SIM card slot (select units, located inside battery bay)
- 4. Vents
- 5. Hard drive bay

HP ProBook 4530s Notebook PC HP ProBook 4730s Notebook PC



HP ProBook 4330s Notebook PC HP ProBook 4430s Notebook PC HP ProBook 4530s Notebook PC HP ProBook 4730s Notebook PC

Overview



- 1. WWAN antennas (4530s models)
- 2. WLAN antennas
- 3. Dual-microphone array\*
- 4. Webcam LED indicator (with optional webcam)
- 5. Optional HD webcam
- 6. Stereo speakers
- 7. HP QuickWeb button with LED indicator
- 8. Wireless on/off button with LED indicator
- 9. Optical drive (select models)
- 10. Numeric keypad
- 11. Optional RJ-11/modem port
- 12. (2) USB 2.0 ports
- 13. HP Fingerprint Sensor

- 14. Touchpad
- 15. Touchpad pick buttons
- 16. Touchpad on/off button with LED indicator
- 17. Stereo microphone in
- 18. Stereo headphone/line out
- 19. Media Card Reader
- 20. Hard drive activity LED indicator
- 21. Power button with LED indicator
- 22. HP Power Assistant function key
- 23. Volume mute function key
- 24. Volume down function key
- 25. Volume up function key

### HP ProBook 4330s Notebook PC

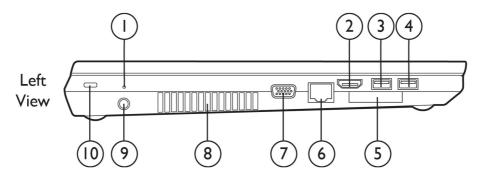
### HP ProBook 4430s Notebook PC

### HP ProBook 4530s Notebook PC

### HP ProBook 4730s Notebook PC

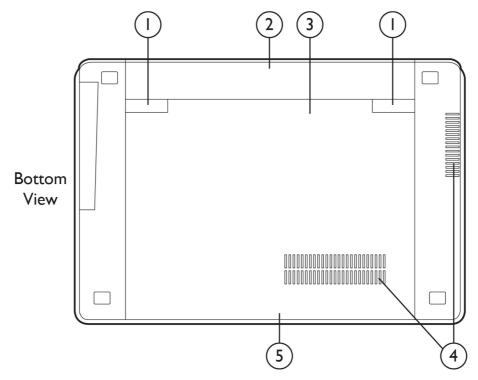
# **QuickSpecs**

Overview



- Battery charging LED indicator 1.
- 2. HDMI 1.3a port
- 3. USB 2.0 port
- USB 2.0 port 4.
- 5. ExpressCard/34 slot

- RJ-45/Ethernet port 6.
- 7. VGA/external monitor connector
- 8. Vent
- 9. Power connector
- 10. Security lock slot



- Battery and access cover release latches 1.
- 2. Battery bay
- 3. SIM card slot (select units, located inside battery bay)
- Vents 4.
- 5. Hard drive bay



HP ProBook 4330s Notebook PC HP ProBook 4430s Notebook PC HP ProBook 4530s Notebook PC HP ProBook 4730s Notebook PC

#### Overview

#### At A Glance

- Genuine Windows 7 versions, SUSE Linux, or FreeDOS
- Thin, lightweight design with brushed aluminum finish for durability and style, wear-resistant HP DuraFinish
- Full-sized spill-resistant keyboard; full separate numeric keypad on HP ProBook 4530s and 4730s
- Larger Touchpad with gestures support, on/off button with LED indicator
- Enhanced security features including HP ProtectTools, HP Face Recognition, optional HP Fingerprint Sensor, and optional HP Privacy Filter
- Optional HD webcam with dual-microphone array for video conferencing
- HDMI port for connecting to high-resolution displays; USB 2.0 ports
- ArcSoft TotalMedia Suite for playing, creating, and editing video and audio files
- SRS Premium Sound optimized for high fidelity audio
- Widescreen LED-backlit HD display with 16:9 aspect ratio
  - HP ProBook 4430s: 14.0-inch diagonal HD anti-glare
  - HP ProBook 4530s: 15.6-inch diagonal HD anti-glare
  - HP ProBook 4730s: 17.3-inch diagonal HD+ anti-glare
- Choice of 2nd generation Intel® Core™ i7, i5 and i3 processors, and Intel Celeron processor
- HP QuickWeb for convenient online access without long boot-up times
- Flexible wireless connectivity options controlled by HP Connection Manager:
  - O Integrated HP Mobile Broadband Module\*
  - O Integrated 802.11 b/g/n wireless LAN module
  - O Integrated 802.11 a/b/g/n or b/g/n with Bluetooth 3.0 High Speed (HS) combo card\*\*
- HP DayStarter for calendar display during startup
- HP Power Assistant to conserve power, increase battery run-time, monitor power needs, report workforce power consumption
- BFR/PVC-free\*\*\*, ENERGY STAR®† qualified and EPEAT TBD registered in the U.S. EPEAT status varies by country- please see
  epeat.net.
- \* Available only on HP ProBook 4530s with integrated graphics.
- \*\* Available on select models.
- \*\*\* Meeting the industry definition of 'BFR/PVC-free' per the iNEMI Position Statement on "Low Halogen" Electronics. Plastic parts incorporated into the chassis generally contain < 1000 ppm (0.1%) of bromine or chlorine. Printed circuit board and substrate laminates generally contain < 1500 ppm (0.15%) of total bromine and chlorine. Service parts after purchase may not be BFR/PVC-free. External accessories, including power supplies, power cords, and peripherals as well as the following customer-configurable internal components: ATT SIM card are not BFR/PVC-free.

† Microsoft Windows is required for ENERGY STAR qualification. 25% energy reduction as per listed in the ENERGY STAR official website: http://www.energystar.gov/index.cfm?fuseaction=find\_a\_product.showProductGroup&pgw\_code=CX



HP ProBook 4330s Notebook PC HP ProBook 4430s Notebook PC HP ProBook 4530s Notebook PC HP ProBook 4730s Notebook PC

Standard Features (availability may vary by country)

#### **Processors**

#### 2<sup>nd</sup> Generation Intel Core i7 Processors

Intel Core i7-2630QM Processor (2.0 GHz, 6 MB L3 cache, 4 cores/8 threads, 45W)\* † Up to 2.9 GHz with Intel Turbo Boost Technology

Intel Core i7-2620M Processor (2.70 GHz, 4 MB L3 cache, 2 cores/4 threads, 35W)\* Up to 3.40 GHz with Intel Turbo Boost Technology

#### 2<sup>nd</sup> Generation Intel Core i5 Processors

Intel Core i5-2520M Processor (2.50 GHz, 3 MB L3 cache, 2 cores/4 threads, 35W)\* Up to 3.20 GHz with Intel Turbo Boost Technology

Intel Core i5-2410M Processor (2.30 GHz, 3 MB L3 cache, 2 cores/4 threads, 35W)\* Up to 2.90 GHz with Intel Turbo Boost Technology

#### 2<sup>nd</sup> Generation Intel Core i3 Processors

Intel Core i3-2330M Processor (2.20 GHz, 3 MB L3 cache, 2 cores/4 threads, 35W)\* Intel Core i3-2310M Processor (2.10 GHz, 3 MB L3 cache, 2 cores/4 threads, 35W)\*

#### Intel Pentium Processor

Intel Pentium B960 Processor (2.20 GHz, 2 MB L3 cache)

#### Intel Celeron Processor

Intel B810 Processor (1.60GHz, 2MB L3 Cache, 2 threads, 35W)\*

NOTE: Processor speed denotes maximum performance mode; processors will run at lower speeds in battery optimization mode.

\* Intel's numbering is not a measurement of higher performance.

† Only available on HP ProBook 4530s and 4730s with discrete graphics.

#### **Operating System**

Preinstalled Genuine Windows 7 Professional 32\*

Genuine Windows 7 Professional 64\* Genuine Windows 7 Home Premium 32\* Genuine Windows 7 Home Premium 64\*

Genuine Windows 7 Home Basic 32\* (select countries)

SuSE Linux Enterprise Desktop 11

FreeDOS

#### Supported

Genuine Windows XP Professional 32

\* System may require upgraded and/or separately purchased hardware and/or a DVD drive to install the Windows 7 software and take full advantage of Windows 7 functionality.

See: http://www.microsoft.com/windows/windows-7/ for details.

\*\* Certain Windows Vista product features require advanced or additional hardware. See:

http://www.microsoft.com/windowsvista/getready/hardwarereqs.mspx and http://www.microsoft.com/windowsvista/getready/capable.mspx for details. Windows Vista Upgrade Advisor can help you determine which features of Windows Vista will run on your computer. To download the tool, visit: http://www.windowsvista.com/upgradeadvisor.

Chipset Mobile Intel HM65 Express Chipset



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Standard Features (availability may vary by country)

Graphics

Models with integrated graphics (not an option on HP 4730s):

Intel HD Graphics 3000

Microsoft DirectX 10.1 (Shader Model 4.1) and OpenGL 3.0 capable NOTE: Intel HD Graphics for configurations with Celeron processor

Models with discrete graphics (not an option on HP 4430s)\*:

AMD Radeon™ HD 6490M with 512 MB or 1 GB dedicated GDDR5 video memory

Microsoft DirectX 11 (Shader Model 5.0) and OpenGL 4.0 capable

\* AMD Dynamic Switchable Graphics technology switches automatically between the Intel integrated graphics and the AMD Radeon discrete graphics to stretch battery life when running typical productivity applications or to enable discrete graphics when running demanding applications. NOTE: This feature requires Windows 7 Professional, Home Premium, and/or Home Basic OS. Full enablement of all discrete graphics video and display features may not be supported on all applications (e.g., OpenGL applications will run on the integrated graphics).

Display

Internal HP ProBook 4430s:

14.0-inch diagonal LED-backlit HD anti-glare (1366 x 768 resolution)

HP ProBook 4530s:

15.6-inch diagonal LED-backlit HD anti-glare (1366 x 768 resolution)

HP ProBook 4730s:

17.3-inch diagonal LED-backlit HD+ anti-glare (1600x900 resolution)

Optional HP Privacy Filter

**External** Up to 32-bit per pixel color depth

VGA port supports resolutions up to 2048 x 1536 at 75 Hz, and lower

resolutions at up to 100 Hz.

**HDMI** port supports direct connection to high-definition displays with up to 1920 x 1080 resolution and 7-channel audio with one convenient cable (not

included).

NOTE: Resolutions are dependent upon monitor capability, and resolution

and color depth settings.



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Standard Features (availability may vary by country)

Standard DDR3 PC3-10600 SDRAM (1333 MHz) Memory

Two SODIMM slots supporting dual-channel memory

1 GB, 2 GB, and 4 GB SODIMMs

Upgradeable to 8 GB with 4 GB SODIMMs Maximum

in slots 1 and 2

**Dual-channel** Maximized dual-channel performance requires SODIMMs of the same size

and speed in both memory slots.

NOTE: Due to the non-industry standard nature of some third-party memory modules, we recommend HP branded memory to ensure compatibility. If you mix memory speeds, the system will perform at the lower memory speed. Full availability of 4 GB or more of memory requires Windows Vista Business 64bit or Linux. With Windows 32-bit operating systems, the amount of usable memory is dependent upon your configuration, so that above 3 GB all memory may not be available due to system resource requirements.

#### Communications

Realtek Ethernet (10/100/1000 NIC)\*

Optional 56K V.92 modem\*\*

- \* The term "10/100/1000" or "Gigabit" Ethernet indicates compatibility with IEEE standard 802.3ab for Gigabit Ethernet, and does not connote actual operating speed of 1 Gb/s. For high-speed transmission, connection to a Gigabit Ethernet server and network infrastructure is required.
- \*\* Designed for downloads from 56K modem compliant sources. Maximum achievable download transmission rates currently do not reach 56 KB/s, and will vary with line conditions. Modem availability is subject to country regulatory approval.

#### Wireless Devices

Support for a broad range of secure, integrated wireless options featuring support for the latest industry standards.

Mobile Broadband options

Mobile Broadband (WWAN) requires a Windows operating system and is available in select countries as a factory configurable feature for the HP

ProBook 4530s with integrated graphics only. Two

850/900/1575/1700/1800/1900/2100 MHz antennas integrated in the top of the display panel support current and future WWAN technologies. NOTE: Separately purchased mobile network operator service is required.

Mobile Broadband Module (availability expected May, 2011)

HP un2430 EV-DO/HSPA Integrated mobile broadband module with Gobi global mobile Internet technology that provides connectivity to both CDMA (EVDO) and UMTS (HSPA) networks. It also provides GPS functionality for various mapping applications and security applications such as Computrace Pro for HP ProtectTools.

HP hs2340 HSPA+ Mobile Broadband

Module

Integrated mobile broadband module that provides connectivity to both HSPA and HSPA+ (UMTS) networks. It also provides standalone, Internet and network assisted GPS functionality for various mapping applications and security applications such as Computrace Pro for HP ProtectTools.

802.11 integrated wireless LAN options Wi-Fi certified\*

Wired Equivalent Privacy (WEP) support up to 128-bit keys

Wi-Fi Protected Access (WPA) and WPA2 support

802.1x authentication support, including EAP-TLS, EAP-TTLS, PEAP-GTC,

PEAP-MSCHAPv2, and LEAP



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Standard Features (availability may vary by country)

Advanced Encryption Standard (AES) support Dual antennas integrated in the display enclosure

Realtek 8188GN 802.11 Integrated support for 802.11 b, g, and n

b/g/n 1x1 WiFi Adapter Up to 150 mbps data rate

Ralink 3592BC8 802.11  $\,$  Integrated support for 802.11 a, b, g, and n

a/b/g/n 2x2 WiFi and Up to 300 mbps data rate

Bluetooth 3.0+HS Bluetooth Specification 3.0 High Speed (HS)\* and 2.1 compliant

Combo Adapter\* Works with a wide range of Bluetooth devices

Atheros 9285GN Integrated support for 802.11 b, g, and n

802.11 b/g/n Up to 150 mbps data rate

1x1 WiFi and 3011 Bluetooth Specification 3.0 High Speed (HS)\* and 2.1 compliant

Bluetooth 3.0+H\$ Works with a wide range of Bluetooth devices Combo Adapter\*

\* Bluetooth 3.0+HS support requires a Windows operating system.

#### Keyboard

The HP spill-resistant keyboard is designed using a thin layer of Mylar film under the keyboard. The 101/102-key compatible keyboard features a full-pitch key layout with desktop keyboard features, such as editing keys, both left and right control and alt keys, and function keys. US and International key layouts are available. The HP ProBook 4530s and 4730s include a separate numeric keypad.

### Launch Buttons and Function Keys

Separate launch buttons provide easy access to wireless on/off and HP QuickWeb. Function keys provide control of features including: standby mode, display brightness, external display, HP Power Assistant, volume mute, volume down, volume up, and media control.

#### Pointing device

Touchpad with gestures support, on/off button with LED indicator, two-way scroll, two pick buttons

#### Expansion card slots

ExpressCard/34 slot Media Card Reader Supports ExpressCard/34 (34 mm x 75 mm x 5 mm) card sizes

Supports High Speed SD 3.0 (Secure Digital), MMC (MultiMedia Card), Memory Stick, Memory Stick Pro, Memory Stick Pro Duo\*, SD Micro, MMC

Micro

\* Memory Stick Pro Duo Adapters are required and sold separately. Inserting a Memory Stick Pro Duo Card directly into your notebook could damage the memory card and/or notebook.



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Standard Features (availability may vary by country)

Internal Storage

Hard drives 320/500 GB 7200 rpm SMART SATA II

320/750 GB 5400 rpm SMART SATA II

NOTE: Up to 15 GB is reserved for the system recovery software.

HP 3D DriveGuard (Windows models only)

The hard drive is mounted directly to the notebook frame, reducing the transmission of shock to the hard drive. Uses three-axis digital motion detection with intelligent sensitivity to help protect the hard drive during normal use from shock and vibration. The digital accelerometer temporarily halts all data transfer and parks the hard drive when abrupt motion is

detected.

Removable Storage

Fixed optical drives Blu-ray ROM DVD+/-RW SuperMulti DL Drive\*

DVD+/-RW SuperMulti DL Drive

DVD-ROM Drive

Weight saver

\* Blu-ray drives not available on configurations with an Intel Celeron processor.

Interfaces

VGA One
HDMI 1.3a One
Stereo microphone in One

**Stereo headphone/line** One

out

Power connector One
RJ-11/modem (optional) One
RJ-45/Ethernet One
USB 3.0\* One
USB 2.0 Three
LED status indicators Nine
\*Available on select models only.

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Standard Features (availability may vary by country)

Audio/Visual

SRS Premium Sound™ Integrated stereo speakers

Integrated microphone (dual-microphone array when equipped with optional webcam) Function keys for volume mute, volume up, volume down; play, rewind, and fast-forward of

video and audio files Stereo headphone/line out Stereo microphone/line in

Optional 720p HD webcam

- HD format (widescreen)
- Supports videoconferencing and still image capture
- High quality fixed focus lens
- Video capture at various resolutions up to 1280x720 resolution (720p) and up to 30fps
- M-JPEG compression supports higher frame rates for video capture and videoconferencing
- Improved low light sensitivity
- Improved dynamic range

Software

Preinstalled software with HP Recovery Manager Windows Operating

System

**HP Support Assistant** 

HP ProtectTools Security Manager

HP ProtectTools for Central Management

**HP Hotkey Support** HP QuickWeb **HP Power Assistant** 

HP Connection Manager 4.0

**HP** DayStarter

Microsoft Office 2010 preloaded (purchase of a Product Key required to activate a full Office 2010 suite)\*

Norton Internet Security 2011\*\* PDF Complete Special Edition\*\*\* ArcSoft Total Media Suite

HP Webcam Software (select models)

Skype

Additional software available from the web HP SoftPaq Download Manager



<sup>\*</sup> Microsoft Office 2010 Preloaded includes reduced functionality versions of Word and Excel, Purchase of Product Key required to activate full Office 2010 suite available at participating resellers/retailers and http://www.office.com.

<sup>\*\*</sup> Norton Internet Security 2011 includes 60 days of complimentary live updates; subscription required for live updates thereafter. Internet access required to receive updates.

<sup>\*\*\*</sup> PDF Complete Special Edition 60 day trial; purchase license afterwards for full functionality.

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Standard Features (availability may vary by country)

**HP Recovery Manager** 

Models shipped with Windows 7 or Windows Vista include HP Recovery Manager. HP Recovery Manager enables fast recovery of the factory preinstalled image if the system becomes corrupted or if important system files are accidentally deleted. Up to 20 GB of the hard drive is reserved for the system recovery software.

#### Security

#### Standard Features

HP ProtectTools Security Manager (standard modules include)

- Credential Manager
- Computrace\* Pro
- Device Access Manager
- Drive Encryption
- Face Recognition (webcam configurations only)
- File Sanitizer
- Privacy Manager
- Embedded Security

**Enhanced Pre-Boot Security** 

HP SpareKey One-Step Logon Security lock slot Support for Intel AT\*\*

#### **Optional Features**

HP Fingerprint Sensor HP Privacy Filter

\* The Computrace agent is shipped turned off, and must be activated by customers when they purchase a subscription with terms ranging from one to five years.

For more information on HP security solutions refer to: http://www.hp.com/products/security.

\*\* Intel AT security requires a separately purchased Absolute Computrace service subscription and must be activated and configured. Check with Absolute for availability in your country. Intel and HP assume no liability for lost or stolen data and/or systems or any other damages resulting therefrom. See <a href="http://www.intel.com/technology/anti-theft/">http://www.intel.com/technology/anti-theft/</a>

#### HP ProtectTools Security Manager with Central Management

HP ProtectTools Security Manager is the security platform for business notebooks and desktops. The HP ProtectTools Security Manager is an extensible client security console that delivers enhanced security capabilities through add-on software modules. The ProtectTools modules are available on the hard drive (also downloadable from the web) and can be configured in Software Setup.

HP ProtectTools is centrally manageable with the capability to manage notebooks from a single point. HP ProtectTools is management ready out of the box, in partnership with Digital Persona. Features address requirements that customers expect from a centrally managed security solution such as user provisioning, credential reset, and credential revocation.

HP ProtectTools provides two separate management solutions, targeted at the enterprise and the SMB:

• Digital Persona Pro AD: Designed for the enterprise customer. Integrates with Active Directory and gives IT Managers the ability to provision users, create login policies based on passwords, biometrics or smartcards. Management features also include remote credential recovery in case the user forgets the password, loses the smartcard or cannot use the fingerprint reader for any reason. In addition, advanced auditing capabilities are also built in. Digital Persona Pro AD is



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Standard Features (availability may vary by country)

available now.

• Digital Persona Pro Workgroup: Designed for the small business customer. Provides features similar to the Active Directory version, but for workgroups. Workgroup activation is built into HP ProtectTools, and activation of up to 5 seats is completely free.

For more information on Central Management for HP ProtectTools, refer to: http://www.hp.com/products/security.

**Power Supply** 

Models with integrated graphics: External 65-watt Smart AC adapter

Models with discrete graphics: External 90-watt Smart AC adapter

6-foot (1.8-meter) power cord included; total length including external AC adapter is 12 feet (3.66

meter)

HP Fast Charge\*

\* HP Fast Charge recharges your battery up to 90% within 90 minutes when the system is off. HP Fast Charge does not apply to the HP 9-cell battery.

**Battery** 

Primary battery

HP ProBook 4430s and 4530s: HP 9-cell (93 WHr) Li-Ion battery HP 6-cell (47 WHr) Li-Ion battery

HP ProBook 4730s:

HP 8-cell (73 WHr) Li-Ion battery

Battery I	Lite
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#### Configurations with integrated graphics

Configurations with discrete graphics (1 GB)

HP ProBook 4430s

9-cell (93 WHr) battery Up to 12 hours 45 minutes

Up to 11 hours Up to 5 hours 45 minutes 6-cell (47 WHr) battery Up to 6 hours

6-cell (55 WHr) HP Long Up to 7 hours 30 minutes

Life Battery\*

HP ProBook 4530s

8-cell (73 Whr) battery Not applicable

9-cell (93 WHr) battery Up to 12 hours 45 minutes 6-cell (47 WHr) battery Up to 6 hours 15 minutes 6-cell (55 WHr) HP Long Up to 7 hours 30 minutes

Life Battery\*

HP ProBook 4730s

Up to 10 hours 30 minutes Up to 6 hours 15 minutes

Up to 6 hours 30 minutes

Up to 7 hours 15 minutes

Up to 8 hours 30 minutes

\* The HP Long Life Battery will carry a limited 1-year warranty.

NOTE: Battery life will vary depending on the product model, configuration, loaded applications, features, use, wireless functionality and power management settings. The maximum capacity of the battery will naturally decrease with time and usage. See MobileMark07 battery benchmark

www.bapco.com/products/mobilemark2007 for additional details.

System Standby Time

Up to 1 week



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Standard Features (availability may vary by country)

**Power Conservation** 

Supports enhanced Intel SpeedStep technology (allows Battery Optimized Mode, Maximum Performance Mode, or Automatic mode)

ATI PowerPlay technology

Hibernation Standby

ACPI compliance

Service and Support

HP Services offers limited 1-year warranty options depending on country; 1-year limited warranty on primary battery. Warranty upgrades are also available. HP Care Pack Services extend service contracts beyond the standard warranties. To choose the right level of service for your HP product, use the HP Care Pack Services Lookup Tool at: http://www.hp.com/go/lookuptool. Additional HP Care Pack Services information by product is available at: http://www.hp.com/hps/carepack.

**NOTE:** Certain restrictions and exclusions apply. Consult the HP Customer Support Center for details. http://h20000.www2.hp.com/bizsupport/TechSupport/ProductRoot.jsp.



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Options (availability may vary by country)

NOTE: Options/capabilities listed in the QuickSpecs represent those capabilities available through Base Units or Build to Order configurations. The various product features and capabilities will vary in terms of configurable vs. aftermarket options (AMOs). There may be options and capabilities available through CTO that are not available as AMOs.

Memory	HP 1 GB (DDR3 1333 MHz) SODIMM	AT911AA#xxx
·	HP 2 GB (DDR3 1333 MHz) SODIMM	AT912AA#xxx
	HP 4 GB (DDR3 1333 MHz) SODIMM	AT913AA#xxx
Storage	HP 250 GB Pocket Media Drive	FE477AA
	HP Mobile USB DVD	XQ543AA
	HP Mobile USB DVDRW	BU516AA
Power	HP 90W Smart AC Adapter	ED495AA#xxx
	HP 90W Smart AC/Auto/Air Combo Adapter	AJ652AA#xxx
	HP 90W Smart Auto/Truck Adapter	ED493AA
	HP 65W Slim Adapter	AX727AA#xxx
	HP 90W Slim Adapter	BT796AA#xxx
Carrying Cases	HP Basic Carrying Case	AJ078AA
	HP Business Nylon Case	BP848AA
	HP Professional Slim Top Load Case	AY530AA
Security	HP Notebook Combo Lock	AY475AA#xxx
	HP Keyed Cable Lock	BV411AA
	HP 14.0-inch Display Privacy Filter	AU100AA#xxx
	HP 15.6-inch Display Privacy Filter	AU103AA#xxx
	HP 17.3-inch Display Privacy Filter	AU650AA#xxx
Input/Output Devices	HP USB Optical Travel Mouse	RH304AA
	HP USB/PS2 Optical 2-Button Scroll Mouse	DC369A
	HP USB Keyboard & Mouse Bundle	RC465AA#xxx
	HP Notebook Projection Companion	AX325AA#xxx



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### Technical Specifications

System Unit Dimensions (HxWxD) HP ProBook 4430s:

1.11in (at front) x 13.in x 9.26 in 2..81 cm (at front) x 33.9 cm x 23.5 cm

HP ProBook 4530s:

1.13 in (at front) x 14.76 in x 10.1 in 2.87 cm (at front) x 37.4 cm x 25.6 cm

HP ProBook 4730s:

1.15 in (at front) x 16.29 in x 11.00 in 2.9 cm (at front) x 41.4 cm x 27.9 cm

Weight HP ProBook 4430s:

Starting at 4.51 lb (2.04 kg) without optical drive or 4.85 lb (2.218 kg) with optical drive

HP ProBook 4530s:

Starting at 5.22 lb (2.36 kg) without optical drive or 5.55 lb (2.51 kg) with optical drive

HP ProBook 4730s:

Starting at 6.44 lb (2.92 kg) without optical drive or 6.72 lb (3.05 kg) with optical drive

**NOTE**: Height varies depending upon where on the notebook the measurement is made. Weight varies by configuration and components.

Stand-Alone Power Nominal Operating 18.5 V

Requirements Voltage

(AC Power) Average Operating Power with integrated graphics: TBD W

with discrete graphics: TBD W

Max Operating Power < 90 W or < 65W

**Temperature** Operating\* 32° to 95° F (0° to 35° C) (not writing optical)

41° to 95° F (5° to 35° C) (writing optical)

Non-operating -4° to 140° F (-20° to 60° C)

**Relative Humidity** Operating 10% to 90%, non-condensing

Non-operating 5% to 95%, 101.6° F (38.7° C) maximum wet

bulb temperature

Shock Operating 125 G, 2 ms, half-sine

Non-operating 200 G, 2 ms, half-sine

Random Vibration Operating 0.75 grms

Non-operating 1.50 grms

Altitude Operating -50 to 10,000 ft (-15.24 to 3,048 m) (unpressurized) Non-operating -50 to 40,000 ft (-15.24 to 12,192 m)

PlannedULYesIndustry StandardCSAYesCertificationsFCC ComplianceYes



HP ProBook 4330s Notebook PC HP ProBook 4430s Notebook PC HP ProBook 4530s Notebook PC HP ProBook 4730s Notebook PC

### **Technical Specifications**

ENERGY STAR® Select models\*\*

EPEAT Registered TBD in United States\*\*\*

ICES Yes Australia / NZ A-Tick Yes

Compliance

CCC Yes
Japan VCCI Compliance Yes
KCC Yes
BSMI Yes
CE Marking Compliance Yes

NOTE: For accessibility information on HP products, please visit: http://www.hp.com/accessibility.

Audio	SRS Premium Sound	
Hardware	Implementation	IDT 92HD87 High Definition CODEC
	Touch-Sensitive Volume Controls	Volume up, volume down, and mute
	Full Duplex	Yes
	Microphone In	Stereo
	Headphone/Line Out	Stereo
	Integrated Microphone	Yes, dual digital microphone array when equipped with optional webcam
Audio Output Quality	Frequency Response	20 Hz – 20 kHz
	Signal to Noise Ratio	>85 dB
	Total Harmonic Distortion	n 0.01%
	Noise Floor	–110 dB
	Play/Record Sampling Rate(s)	8 kHz – 48kHz
	DAC	16, 20 or 24-bit
	ADC	16 or 20-bit



 $<sup>^{*}</sup>$  At temperatures above 86° F (30° C), the Intel Core i3-2310M Processor may not run at maximum clock speed.

<sup>\*\*</sup> Configurations of the HP Probook 4430s, HP ProBook 4530s, and HP Probook 4730s that are ENERGY STAR qualified are identified as HP ProBook 4430s ENERGY STAR, HP ProBook 4530s ENERGY STAR, and HP Probook 4730s ENERGY STAR on HP websites and on www.energystar.gov.

<sup>\*\*\*</sup> EPEAT registration varies by country. See <a href="https://www.epeat.net">www.epeat.net</a> for registration status by country. EPEAT status listed above applies to U.S.

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Technical Specifications

Integrated Stereo **Speakers** 

**Power Rating** 2 Watts 4 Ohms Impedance

Power

HP 90W Smart AC Adapter

**Dimensions** Weight

5.00 x 1.97 x 1.1 in (12.7 x 5.0 x 2.9 cm)

0.82 lb (370 g) 100 to 240 VAC Input

> 87% min at 115 VAC Input Efficiency

Input frequency range 47 to 63 Hz

Input AC current 1.5 A at 90 VAC, 0.75 A at 180 VAC PFC

Version

2.4 A at 90 VAC, 1.2 A at 180 VAC NON PFC

Version 90W

Output Output power

19.0V

3 pin/grounded, mates with interchangeable cords

DC output Hold-up time

5 msec at 115 VAC input <11A, Over voltage protection- 29V max Output current limit

automatic shutdown

Connector **Environmental Design** 

32° to 104° F (0° to 40° C) Operating temperature

-4° to 149° F (-20° to 65° C) Non-operating (storage)

temperature

Altitude 0 to 10,000 ft (0 to 3,048 m)

20% to 80% **Humidity** 10% to 90% Storage Humidity

EMI and Safety Certifications

CE Mark - full compliance with LVD and EMC directives; Worldwide safety standards - IEC60950, EN60950, UL60950, Class 1, SELV; Agency

approvals - C-UL-US, NORDICS, DENAN, EN55022 Class B, FCC Class B, CISPR22 Class B, CCC, NOM-1 NYCE; MTBF- over 200,000 hours at

25°C ambient condition.

HP ProBook 4330s Notebook PC HP ProBook 4430s Notebook PC HP ProBook 4530s Notebook PC HP ProBook 4730s Notebook PC

### Technical Specifications

HP 65W Smart AC Adapter

**Dimensions** 4.17 x 1.85 x 1.1 in (10.6 x 4.7 x 2.8 cm)

Weight 0.62 lb (280 g) 100 to 240 VAC Input

> Input Efficiency 87% min at 115 VAC

47 to 63 Hz Input frequency range

Input AC current 1.7 A at 90 VAC, 0.85 A at 180 VAC

65W Output Output power DC output 18.5V

> Hold-up time 5 msec at 115 VAC input

Output current limit <11A, Over voltage protection-29V max

automatic shutdown

Connector 3 pin/grounded, mates with interchangeable cords **Environmental Design** Operating temperature 32° to 104° F (0° to 40° C)

-4° to 149° F (-20° to 65° C) Non-operating (storage)

temperature

Altitude 0 to 10,000 ft (0 to 3,048 m)

20% to 80% Humidity Storage Humidity 10% to 90%

EMI and Safety Certifications

CE Mark - full compliance with LVD and EMC directives; Worldwide safety standards - IEC60950, EN60950, UL60950, Class 1, SELV; Agency approvals - C-UL-US, NORDICS, DENAN, EN55022 Class B, FCC Class B,

CISPR22 Class B, CCC, NOM-1 NYCE; MTBF - over 200,000 hours at

25°C ambient condition.

NOTE: Unless otherwise noted, temperature limits listed in the following component specifications relate to the internal temperatures of these components and not to the environment in which the PC is operating.

9-Cell (93 WHr) Lithium- Dimensions (H x W x L) Ion battery

 $0.8 \times 2.9 \times 8.3$  in  $(2.0 \times 7.3 \times 21.0 \text{ cm})$ 

Weight 1.07 lb (0.488 kg) Cells/Type 9-cell Lithium-Ion

Watt-hour Capacity 93 WHr Energy

**Temperature** Operating (Charging) 32° to 113° F (0° to 45° C)

Operating (Discharging) 14° to 140° F (-10° to 60° C)  $-4^{\circ}$  to 140° F (-20° to 60° C)

Non-operating 3 to 4 hours

Battery Re-Charge Time System in OFF mode or

Standby

System ON 4 to 6 hours (depending on system power

consumption)



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### Technical Specifications

8-Cell (73 Whr) Lithium-Ion Primary battery **Dimensions** (HxWxL) 0.8 x 1.9 x 10.6 in (2.0 x 4.8 x 27.0 cm)

Weight 0.980 lb (0.445 kg)
Cells/Type 8-cell Lithium-Ion

Energy Watt-hour Capacity 73 Wh

**Temperature** Operating (Charging) 32° to 113° F (0° to 45° C)

Operating (Discharging)  $14^{\circ}$  to  $140^{\circ}$  F (- $10^{\circ}$  to  $60^{\circ}$  C) Non-operating  $-4^{\circ}$  to  $140^{\circ}$  F (- $20^{\circ}$  to  $60^{\circ}$  C)

Battery Re-Charge Time System in OFF mode or 2.5 hours

Standby

System ON 3 to 5 hours (depending on system power

consumption)

HP Fast Charge Charges the battery up to 90% within 1.5 hours

Technology when system is OFF

6-Cell (62 WHr) Lithium- Dimensions (HxWxL) on battery Weight

Dimensions (HxWxL) 0.8 x 2.0 x 8.3 in (2.0 x 5.1 x 21.1 cm)

Weight 0.72 lb (0.325 kg)
Cells/Type 6-cell Lithium-lon

Energy Watt-hour Capacity 62Wh

**Temperature** Operating (Charging) 32° to 113° F (0° to 45° C)

Operating (Discharging)  $14^{\circ}$  to  $140^{\circ}$  F ( $-10^{\circ}$  to  $60^{\circ}$  C) Non-operating  $-4^{\circ}$  to  $140^{\circ}$  F ( $-20^{\circ}$  to  $60^{\circ}$  C)

Battery Re-Charge Time System in OFF Mode or 2.5 hours

Standby

System ON 3 to 5 hours (depending on system power

consumption)

6-Cell (47 WHr) Lithiumlon battery **Dimensions** (H x W x L) 0.8 x 1.8 x 10.4 in (2 x 4.5 x 26.5cm)

Weight (max) .70lb, (.312kg)
Cells/Type Lithium-lon

Energy Voltage 10.8V

Amp-hour capacity 4.4Ah
Watt-hour capacity 47Wh

**Temperature** Operating (Charging) 32° to 113° F (0° to 45° C)

Operating (Discharging)  $14^{\circ}$  to  $122^{\circ}$  F(- $10^{\circ}$  to  $50^{\circ}$  C) Non-operating  $-4^{\circ}$  to  $122^{\circ}$  F (- $20^{\circ}$  to  $50^{\circ}$  C)

Battery Re-Charge Time System in OFF or Standby 2.5 hours

Mode

System ON 3 to 5 hours

Fuel Gauge LED No Warranty 1 year



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Technical Specifications

**Optional Travel Battery** 

**Available** 

No

Displays

17.3-inch LED HD+ anti- Active Area (W x H)

15.0 x 8.5 in (38.2 x 21.5 cm)

glare

Diagonal Size

17.3 in (43.9 cm)

Surface Treatment Contrast Ratio

Anti-glare 400:1 typical

Refresh Rate

60 Hz

**Brightness** 

200 nit typical

Pixel Resolution

0.23868 x 0.23868 mm Pitch

**Format** 

LED

107

1600 x 900

Configuration

**RGB** Stipe

**Backlight** PPI

Viewing Angle

±30° Horizontal, ±10° Vertical (minimum)

30/30/20/10 (Left/Right/Down/Up) (minimum) or 45/45/35/25 (Left/Right/Down/Up) (typical)

15.6-inch LED HD (1366 Dimensions (W x H)

x 768) anti-glare

13.54 x 7.59 in (34.4 x 19.4 cm)

Diagonal Size

15.6 in (39.6cm)

Surface Treatment Contrast Ratio

Anti-glare 400:1 (min)

Refresh Rate

60 Hz

**Brightness** 

210 nit (typical)

Pixel Resolution

0.252 mm Pitch

**Format** 

1366 x 768

Configuration

**RGB** Stripe

**Backlight** PPI

LED 101 ppi

Viewing Angle

±30° Horizontal, ±10° Vertical (minimum)

30/30/20/10 (Left/Right/Down/Up) (minimum) or 45/45/35/25 (Left/Right/Down/Up) (typical)



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### **Technical Specifications**

14.0-inch LED HD (1366 Active Area (W x H)

x 768) anti-glare Active Area (W x H) 12.74 x 7.56 in (32.4 x 19.2 cm)

Diagonal Size 14.0 in (35.6cm)

Surface Treatment Anti-glare
Contrast Ratio 400:1 (typical)

Refresh Rate 60 Hz

Brightness 200 nit (typical)

Pixel Resolution Pitch 0.227 mm

Format 1366 x 768
Configuration RGB Stripe

**Backlight** LED PPI 112 ppi

Viewing Angle  $\pm 30^{\circ}$  Horizontal,  $\pm 10^{\circ}$  Vertical (minimum)

30/30/20/10 (Left/Right/Down/Up) (minimum) or 45/45/35/25 (Left/Right/Down/Up) (typical)

#### Internal Storage

500 GB 7200 rpm SATA Drive Weight

Hard Drive

Orive Weight 0.25 lbs (115g)

Capacity 500 GB

 Height
 0.37 in (9.5 mm)

 Width
 2.75 in (70 mm)

Interface ATA-8, SATA 2.6, 3.0 Gb/s, NCQ

Transfer Rate Synchronous (maximum) 300 MB/s (Drive Capability)

Seek Time Single Track 1.5 ms (typical reads, including settling) Average 11 ms

eming) Maximum 22 ms

Rotational Speed 7200 rpm Logical Blocks 976,773,168

Operating Temperature 32° to 140° F (0° to 60° C) [case temp]

Features ATA Security

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Technical Specifications

320 GB 7200 rpm SATA Drive Weight Hard Drive

0.25 lbs (115 g)

Capacity

Height 0.37 in (9.5 mm) Width 2.75 in (70 mm)

Interface ATA-8, SATA 2.6, 3.0 Gb/s, NCQ

320 GB

**Transfer Rate** Synchronous (maximum) 300 MB/s (Drive Capability)

Seek Time Single Track 1.5 ms (typical reads, including 11 ms Average settling) 22 ms Maximum

**Rotational Speed** 7200 rpm Logical Blocks 625,142,448

**Operating Temperature**  $32^{\circ}$  to  $140^{\circ}$  F (0° to  $60^{\circ}$  C) [case temp]

**Features** ATA Security

750 GB 5400 rpm SATA Drive Weight Hard Drive

0.27 lb (125 g) or 0.22 lb (101 g)

Capacity 750 GB

Height 0.50 in (12.7 mm) or 0.37 in (9.5 mm)

Width 2.75 in (70 mm)

Interface ATA-8, SATA 2.6, 3.0 Gb/s, NCQ

Transfer Rate **Synchronous** (maximum) 300 MB/s (Drive Capability)

Seek Time Single Track 3 ms (typical reads, including Average 13 ms settling) Maximum 24 ms

**Rotational Speed** 5400 rpm Logical Blocks 1,465,149,168

Operating Temperature  $32^{\circ}$  to  $140^{\circ}$  F (0° to  $60^{\circ}$  C) [case temp]

**Features** ATA Security

HP ProBook 4330s Notebook PC HP ProBook 4430s Notebook PC HP ProBook 4530s Notebook PC HP ProBook 4730s Notebook PC

Technical Specifications

320 GB 5400 rpm SATA Drive Weight Hard Drive

0.22 lb (101 g) 320 GB Capacity

0.37 in (9.5 mm) Height Width 2.75 in (70 mm)

Interface ATA-8, SATA 2.6, 3.0 Gb/s, NCQ

**Transfer Rate** Synchronous (maximum) 300 MB/s (Drive Capability)

Seek Time Single Track 3 ms (typical reads, including 13 ms Average settling)

Maximum 24 ms

**Rotational Speed** 5400 rpm Logical Blocks 625,142,448

**Operating Temperature**  $32^{\circ}$  to  $140^{\circ}$  F (0° to  $60^{\circ}$  C) [case temp]

**Features** ATA Security

**Optical Drives** 

**Access Times DVD-ROM Drive** Random < 140 ms CD (typical) (4530s only)

< 160 ms DVD (typical)

Max Data Transfer Rate 24X CD-ROM

8X-DVD

Transfer Mode UDMA Mode 5 Interface Gen 1 SATA

Supported Media (read) CD-DA, CD-TEXT, CD-ROM, CD-ROM XA, MIXED MODE CD, CD-I, CD-I

> Bridge (Photo-CD, Video CD), Multisession CD (Photo-CD, CD-EXTRA, Portfolio, CD-R, CD-RW), CD-R, CD-RW, DVD-ROM (DVD-5, DVD-9, DVD-

10, DVD-18), DVD-R, DVD-RW, DVD+R, DVD+RW, DVD-RAM

Supported Media (write) None Max Media Capacity 8.5GB

(read)

Transport Tray Loading



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Technical Specifications

DVD+/-RW SuperMulti **Access Times** Random **DL** Drive

<140ms CD (typical) < 160 ms DVD (typical)

Max Data Transfer Rate 24X CD-ROM

> 8X DVD 24X CD-R 24X CD-RW 8X DVD+R 8X DVD+RW 8X DVD-R 6X DVD-RW

6X - DVD+R Dual Layer 6X - DVD-R Dual Layer

5X DVD-RAM

Transfer Mode UDMA Mode 5 Interface Gen 1 SATA

Supported Media (read) CD-DA, CD-TEXT, CD-ROM, CD-ROM XA, MIXED MODE CD, CD-I, CD-I

> Bridge (Photo-CD, Video CD), Multisession CD (Photo-CD, CD-EXTRA, Portfolio, CD-R, CD-RW), CD-R, CD-RW, DVD-ROM (DVD-5, DVD-9, DVD-

10, DVD-18), DVD-R, DVD-RW, DVD+R, DVD+RW, DVD-RAM

Supported Media (write) CD-R, CD-RW, DVD+R, DVD+RW, DVD-R, DVD-RW, DVD-RAM, DVD+R

DL, DVD-R DL

Max Media Capacity

(read)

8.5 GB

Max Media Capacity

(write)

8.5 GB

**Transport** Tray Loading

Blu-ray R/RE DVD+/-RW Access Times

SuperMulti DL Drive

Random

<165 ms CD-ROM (typical)

<185 ms DVD-ROM (typical)

<205 ms BD-ROM (typical)

Max Data Transfer Rate 24X CD-ROM

> 8X DVD-ROM 24X CD-R 16X CD-RW 8X DVD+R 8X DVD+RW 8X DVD-R

6X DVD+R Dual Layer

6X DVD-R Dual Layer

5X DVD-RAM

6X DVD-RW



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Technical Specifications

6X BD-ROM 6X BD-R

2X BD-RE

Transfer Mode UDMA Mode 5 Interface Gen 1 SATA

Supported Media (read) CD-DA, , CD-TEXT, CD-ROM, CD-ROM XA, MIXED MODE CD, CD-I, CD-I

Bridge (Photo-CD, Video CD), Multisession CD (Photo-CD, CD-EXTRA, Portfolio, CD-R, CD-RW), CD-R, CD-RW, DVD-ROM (DVD-5, DVD-9, DVD-10, DVD-18), DVD-R, DVD-RW, DVD+R, DVD-RW, DVD-RAM, BD-ROM,

BD-R, BD-RE

Supported Media (write) CD-R, CD-RW, DVD+R, DVD+R DL, DVD+RW, DVD-R, DVD-R DL, DVD-RDL, DVD-R

RW, DVD-RAM, BD-R, BD-RE

Max Media Capacity

(read)

50.0 GB

Max Media Capacity

(write)

Transport

50.0 GB

Tray Loading

Security

HP Fingerprint Sensor Mobile Voltage 3.0V-3.6V Single Supply

Operation

Operating Temperature  $32^{\circ} - 158^{\circ}F (0^{\circ} - 70^{\circ}C)$ 

Current Consumption @

3.3V

Less than 70 mA peak imaging and scrolling Less than 25 mA hardware finger detection

Advanced Power Management

High-Rate Image Capture Up to 240 image frames /sec ESD Resistance IEC 61000-4-2 Level 4  $(\pm 15 \text{KV})$ 

Detection Matrix 192 x 16 Pixels

9.7 mm x 0.81 mm

500 ppi High-Resolution Images

Communications



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### Technical Specifications

Integrated Realtek
RTL8153EH-CG
10/100/1000 NIC

**Ethernet Features** 

10 Mbit/s operation (10BASE-T; IEEE 802.3; IEEE 802.3 clauses 13-14) 100 Mbit/s operation (100BASE-TX; IEEE 802.3u; IEEE 802.3 clauses 21-

30)

1000 Mbit/s operation (1000BASE-T; IEEE 802.3ab; IEEE 8023 clauses 40)

Auto-Negotiation (Automatic Speed Selection)

Full Duplex Operation at all Speeds, Half Duplex operation at 10 and 100

Mbit/s

IEEE 802.1p QoS (Quality of Service) Support

IEEE 802.1q VLAN support

IEEE 802.3x Flow Control (IEEE 802.3 clauses 31-32; configurable)

IEEE 802.3az EEE (Energy Efficient Ethernet)

Jumbo Frame 9K

Auto MDI/MDIX Crossover cable detection ACPI compliant - multiple power modes

Management Situation-sensitive features reduce power consumption

Advanced link down power saving for reducing link down power

consumption

Performance TCP/IP/UDP Checksum Offload (configurable)

Features Protocol Offload (ARP & NS)

Large send offload and Giant send offload

Receiving Side Scaling

Manageability Wake-on-LAN from standby and hibernation (Magic Packet and Microsoft

Wake-Up Frame); Wake-on-LAN from off (Magic Packet only)

PXE 2.1 Remote Boot

Statistics Gathering (SNMP MIB II, Ethernet-like MIB, Ethernet MIB (802.3x,

clause 30))

Comprehensive diagnostic and configuration software suite

Virtual Cable Doctor for Ethernet cable status

Interface PCI Express 1.1 x1 to fully support ASPM LOs/L1 and CLKREQ

NIC Device Driver Name Realtek PCle GBE Ethernet Family Controller

#### V.92 56K Data/Fax Modem

Form Factor

Power

MDC 1.5 Daughtercard

Power Management

Support

APM Revision 1.2, ACPI

Approvals/ Certifications UL, CSA, NEMKO, CCIB, Industry Canada, FCC Part 68, CTR21, FCC Part 15 Class B, Canadian ICES-003 Class B, C.I.S.P.R.22, Australian ACA, CE

Mark, Other Countries

Data Mode Capabilities V.92 data

V.8bis V.80

V44, V.42bis, MNP5 (Compression) V.42 (LAPM, MNP2-4) (Error Correction)

Optional symbol rates:

2800, 3429

Asymmetric Symbol rates

Synchronous primary channel data signaling rates:



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**Technical Specifications** 

3600, 31200

Automatic rate re-negotiation

V.34 V.32bis V.32 V.23 V.22bis V.22 V.21 Bell 212A Bell 103J

Fax Mode Capabilities TIA/EIA-578-B (Class 1)

T.30, T.4 (Group 3)

V.17 V.29 V.27ter

V.21 Channel 2

T.31

Command Set V.250 (Partial)

TIA-602

Identification: +GMI, +GMM, +GMR Port control: +IPR, +ICF, +IFC, +ILRR

Modulation: +MS, +MR, +MA

Error control: +ES, +ER, +EB, +ESR, +ETBM

Data compression: +DS, +DR

V.251

HP un2430 EV-DO/HSPA Mobile Broadband Module Technology/Operating

Bands 190

1900MHz (PCS)

UMTS/WCDMA with receive diversity: 2100MHz (UTRA FDD Band I), 1900MHz (UTRA FDD Band II), AWS (UTRA FDD Band IV), 900MHz(UTRA

GSM/GPRS/EDGE: 850MHz(Cell), 900MHz(EGSM), 1800MHz(DCS),

FDD Band VIII), 850MHz (UTRA FDD Band V)

1xEVDO/1xRTT with receive diversity: 850MHz (Band Class0-Cell),

1900MHz (Band Class1-PCS)

Wireless Protocol Standards GSM/GPRS/EDGE: Class A, Multi-slot class 10 operation, coding schemes

CS1 - CS4 and MSC1 - MSC9.

UMTS/WCDMA: Release 99 and Release 6

CDMA: 1xEVDO Release 0 and Release A, IS-95A, IS-95B, IS-856, IS-2000

Wireless Parametric

Standards

Meets or exceeds TIA/EIA IS-98-D

Maximum Data Rates UMTS (HSPA) - 14.4 Mbps (Download), 5.76Mbps (Upload)

CDMA (EVDO Release A) - 3.1 Mbps (Download), 1.8 Mbps (Upload)

GPS Standalone GPS enabled

gpsOneXTRATM™

**GPS Bands** L1 - 1575.42 MHz



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### Technical Specifications

Maximum Output Power GSM/GPRS/EDGE: 32dBm (+/-1)

> WCDMA: 24dBm (+0.7/-2.3) CDMA: 24dBm (+0.7/-2)

Maximum Power Consumption

2750mA (peak); 1100mA (average)

Power Consumption, Idle 20 mA

Not Connected

**Power Management** USB selective suspend

Integrated notebook wireless button

Dual high efficiency 5 band antennae with spatial diversity, mounted in the Antenna Type

display enclosure

Form Factor PCI-Express MiniCard, USB 2.0 interface

Weight 11.5 g

Dimensions (Length x Width x Thickness)

2.01 x 1.18 x 0.18 in (51 x 30 x 5 mm)

Voltage, Operating 3.3v + / - 10%

Temperature, Operating -22° to 158° F (-30° to 70° C) (full RF performance) (from TIA/EIA/IS-98-D) -22° to 167° F (-30° to 75° C) (reduced RF performance)

Temperature, Nonoperating, 96 hours (from MIL-STD 202 Method

-40° to 185° F (-40° to 85° C)

108)

Humidity, Non-operating 95% relative humidity for 48 hours @ 185° F (85° C) (non-condensing)

Configuration Utilities

**HP** Connection Manager LED Activity LED Off - Radio Off; Solid LED On - Radio On

Intel Centrino Advanced- Wireless LAN Standards

N 6230 WiFi and

Bluetooth Combo Adapter

IEEE 802.11a

IEEE 802.11b IEEE 802.11g

IEEE 802.11n

Interoperability Wi-Fi certified

Cisco Compatible Extensions Program compliantwith Microsoft Windows

Vista and XP (details at: http://www.hp.com/go/notebooks/WLAN)

2.4 GHz and 5GHz Frequency Band

Data Rates 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps

802.11b: 1, 2, 5.5, 11 Mbps

802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps

802.11n: 66 possible data rates, ranging from 6 Mbps to 300 Mbps, depending on the combination of Bandwidth, Modulation Coding Scheme,

and Guard Interval used, as defined in IEEE 802.11n specification

Modulation Direct Sequence Spread Spectrum

DBPSK, DQPSK, CCK, OFDM, BPSK, QPSK, 16-QAM, 64-QAM

Security<sup>1</sup> Supports 64- and 128-bit WEP, WPA, WPA2, hardware-accelerated AES,

802.1x authentication types EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-



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Technical Specifications

MSCHAPv2, LEAP, EAP-FAST.

Support for Cisco Security Features (proven compatibility with Cisco Aironet infrastructure products through the Cisco Compatible Extensions Program

Version 4) with Microsoft Windows Vista and XP only.

Sub-channels Multinational support with frequency bands and channels compliant to local

regulations.

Media Access Protocol CSMA/CA (Collision Avoidance) with ACK

Network Architecture Ad-hoc (Peer to Peer)

Models Infrastructure (Access Point Required)

Roaming IEEE 802.11 compliant roaming between access points

Output Power (for CCK 17 dBm , nominal

and OFDM)<sup>2</sup>

Output Power (for OFDM; 15 dBm, nominal

power varies by data

rate)<sup>2</sup>

**Power Consumption** Idle associated: 250 mW

Idle unassociated: 150 mW Transmit: 2.0 W (max) Receive: 2.0 W (max)

Power Management ACPI compliant power management

802.11 compliant power saving mode

Receiver Sensitivity<sup>3</sup> 54 Mbps: -71 dBm, 11 Mbps: -85 dBm , 1 Mbps: -95 dBm

Antenna type High efficiency dual band antenna with spatial diversity, mounted in the

display enclosure

Form Factor PCI-Express Half-MiniCard

**Weight** 0.013 lb (6 g)

**Dimensions** 0.19 x 1.06 x 1.18 in (4.75 x 26.8 x 30 mm)

Operating Voltage 3.3v +/- 10%

**Temperature** Operating 14° to 149° F (-10° to 65° C)

Non-operating  $-40^{\circ}$  to  $176^{\circ}$  F ( $-40^{\circ}$  to  $80^{\circ}$  C)

Humidity Operating 10% to 90% (non-condensing)

Non-operating 5% to 95% (non-condensing)

Altitude Operating 0 to 10,000 ft (3,048 m)

Non-operating 0 to 50,000 ft (15,240 m)

Configuration Utility<sup>4</sup> Microsoft Windows XP

Choice of Configuration Utility:

• Microsoft Windows XP Wireless Network Connection Manager

 Broadcom Wireless Configuration Utility (required for Cisco Compatible Extensions support)

Microsoft Windows Vista

- Microsoft Windows Vista Wireless Network Connection Manager
- Broadcom IHV extensions for Windows Vista available to support



HP ProBook 4330s Notebook PC HP ProBook 4430s Notebook PC HP ProBook 4530s Notebook PC HP ProBook 4730s Notebook PC

### Technical Specifications

Cisco Compatible Extensions.

LED Activity LED Off - Radio OFF; Solid LED On - Radio ON

1. Check latest software/driver release for updates on supported security features.

2. Maximum output power may vary by country according to local regulations.

3. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CCK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).

4. WLAN supplier's client utility is required for Cisco Compatible Extensions support with Microsoft Windows XP. WLAN may also be compatible with certain third-party software supplicants. WLAN supplier IHV extensions required for Cisco Compatible Extensions support for Microsoft Windows Vista.

Bluetooth 2.1 and 3.0 Wireless Technology

Bluetooth Specification 2.1+EDR and 3.0+HS Compliant

**Dimensions** 1.18 x 0.26 x 0.13 in (30 x 6.5 x 3.25 mm)

Frequency Band 2402 to 2480 MHz

Number of Available

Channels

79 (1 MHz) available channels

Data Rates and 3 Mbps data rate; throughput up to 2.17 Mbps

Throughput Synchronous Connection Oriented links up to 3, 64 kbps, voice channels

Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric or

1306.9 kbps symmetric

Transmit Power Max 5.5 dBm (Bluetooth Class I)

Receiver Sensitivity Better than -80 dBM at 0.1 % raw bit error rate

**Power Consumption** Average 165mW

Sleep < 1 mW

Antenna Internally integrated within module

Range Up 33 ft (10 m)
Electrical Interface USB 2.0 compliant

Microsoft Windows Plug and Play compliant

Bluetooth Software

Supported

Broadcom Bluetooth for Windows

Microsoft Windows Bluetooth Software

Link Topology Point to Point, Multipoint Pico Nets up to 7 slaves

Security Full support of Bluetooth Security Provisions

Power Management Microsoft Windows ACPI, and USB Bus Support

Self configurable to optimize power conservation in all operating modes,

including Standby, Hold, Park, and Sniff

**Certifications** All necessary regulatory approvals for supported countries, including:

FCC (47 CFR) Part 15C, Section 15.247 & 15.249

ETS 300 328, ETS 300 826 Low Voltage Directive IEC950

UL, CSA, and CE Mark

**Temperature** Operating -4° to 158° F (-20° to 70° C)

Non-operating  $-40^{\circ}$  to  $176^{\circ}$  F ( $-40^{\circ}$  to  $80^{\circ}$  C)

Humidity Operating 10% to 90%

Non-operating 5% to 95%



HP ProBook 4330s Notebook PC HP ProBook 4430s Notebook PC HP ProBook 4530s Notebook PC HP ProBook 4730s Notebook PC

### Technical Specifications

Altitude Operating 15,000 ft (4,572 m)

Non-operating 40,000 ft (12,192 m)

Bluetooth Profiles Serial Port Profile (SPP)

Supported Service Discovery Application Profile (SDAP)

Dial-Up Networking (DUN)<sup>1,2</sup>

Generic Object Exchange Profile (GOEP)<sup>1,2</sup>

Object Push Profile (OPP)<sup>1,2</sup> File Transfer Profile (FTP) Synchronization Profile (SYNC)

Hard Copy Cable Replacement (HCRP)<sup>1,2</sup> Personal Area Networking Profile (PAN)<sup>1,2</sup> Human Interface Device Profile (HID)<sup>1,2,3</sup>

FAX Profile (FAX)

Basic Imaging Profile (BIP)<sup>2</sup>
Headset Profile (HSP)
Hands Free Profile (HFP)

Advanced Audio Distribution Profile (A2DP)

- 1. indicates the profile is supported by Microsoft Windows XP SP2
- 2. indicates the profile is part of Windows Vista

Atheros 9285GN 802.11b/g/n + BT 3.0 HS Combo Adapter Wireless LAN Standards IEEE 802.11b

IEEE 802.11g IEEE 802.11n

Interoperability Wi-Fi certified Frequency Band 2.4 GHz

**Data Rates** 802.11b: 1, 2, 5.5, 11 Mbps

802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps

802.11n: many possible data rates, ranging from 6 Mbps to 300 Mbps, depending on the combination of Bandwidth, Modulation Coding Scheme,

and Guard Interval used, as defined in IEEE 802.11n specification

Modulation Direct Sequence Spread Spectrum

DBPSK, DQPSK, CCK, OFDM, BPSK, QPSK, 16-QAM, 64-QAM

Security Supports 64- and 128-bit WEP, WPA, WPA2, hardware-accelerated AES,

802.1x authentication types EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-

MSCHAPv2, LEAP, EAP-FAST.

Sub-channels Multinational support with frequency bands and channels compliant to local

regulations.

Media Access Protocol CSMA/CA (Collision Avoidance) with ACK

Network Architecture Ad-hoc (Peer to Peer)

Models Infrastructure (Access Point Required)

Roaming IEEE 802.11 compliant roaming between access points

Output Power (for CCK

and OFDM)<sup>2</sup>

17 dBm, nominal



HP ProBook 4330s Notebook PC HP ProBook 4430s Notebook PC HP ProBook 4530s Notebook PC HP ProBook 4730s Notebook PC

### Technical Specifications

Output Power (for OFDM; 15 dBm, nominal

power varies by data

rate)<sup>2</sup>

Power Consumption Transmit: 1.5 W (max)

Receive: 1.0 W (max)

Associated to Access Point, Idle: 300 mW nominal

Wireless Button Off: 75 mW nominal

Power Management ACPI compliant power management

802.11 compliant power saving mode

Receiver Sensitivity<sup>3</sup> 54 Mbps: -75 dBm, 11 Mbps: -88 dBm, 1 Mbps: -93 dBm

Antenna type High efficiency antenna with spatial diversity, mounted in the display

enclosure

Form Factor PCI-Express Half-MiniCard

**Weight** 0.013 lb (6 g)

**Dimensions** 0.19 x 1.06 x 1.18 in (4.75 x 26.8 x 30 mm)

Operating Voltage 3.3v +/- 9%

**Temperature** Operating 14° to 149° F (-10° to 65° C)

Non-operating  $-40^{\circ}$  to  $176^{\circ}$  F (-40° to  $80^{\circ}$  C)

Humidity Operating 10% to 90% (non-condensing)

Non-operating 5% to 95% (non-condensing)

Altitude Operating 0 to 10,000 ft (3,048 m)

Non-operating 0 to 50,000 ft (15,240 m)

LED Activity LED Off - Radio OFF; Solid LED On - Radio ON

1. Check latest software/driver release for updates on supported security features.

2. Maximum output power may vary by country according to local regulations.

3. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CKK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).

Ralink 3592BC8 802.11a/b/g/n 2x2 WiFi and Bluetooth 3.0+HS Combo Adapter Wireless LAN Standards IEEE 802.11a

IEEE 802.11b

IEEE 802.11n

**Interoperability** Wi-Fi certified

Cisco Compatible Extensions Program compliantwith Microsoft Windows

Vista and XP (details at: http://www.hp.com/go/notebooks/WLAN)

Frequency Band 2.4 GHz and 5GHz

**Data Rates** 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps

802.11b: 1, 2, 5.5, 11 Mbps

802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps

802.11n: from 6 Mbps to 300 Mbps, depending on the combination of Bandwidth, Modulation Coding Scheme, and Guard Interval used, as

defined in IEEE 802.11n specification

Modulation Direct Sequence Spread Spectrum

DBPSK, DQPSK, CCK, OFDM, BPSK, QPSK, 16-QAM, 64-QAM

Security<sup>1</sup> Supports 64- and 128-bit WEP, WPA, WPA2, hardware-accelerated AES,



HP ProBook 4330s Notebook PC HP ProBook 4430s Notebook PC HP ProBook 4530s Notebook PC HP ProBook 4730s Notebook PC

### Technical Specifications

802.1x authentication types EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-

MSCHAPv2, LEAP, EAP-FAST.

Support for Cisco Security Features (proven compatibility with Cisco Aironet infrastructure products through the Cisco Compatible Extensions Program

Version 4) with Microsoft Windows Vista and XP only.

Sub-channels Multinational support with frequency bands and channels compliant to local

regulations.

Media Access Protocol CSMA/CA (Collision Avoidance) with ACK

Network Architecture

Ad-hoc (Peer to Peer)

Models

Infrastructure (Access Point Required)

Roaming IEEE 802.11 compliant roaming between access points

Output Power (for CCK

17 dBm, nominal

and OFDM)<sup>2</sup>

Output Power (for OFDM; 15 dBm, nominal

power varies by data

rate)<sup>2</sup>

**Power Consumption** Idle associated: 250 mW

Idle unassociated: 150 mW Transmit: 2.0 W (max) Receive: 2.0 W (max)

Power Management ACPI compliant power management

802.11 compliant power saving mode

Receiver Sensitivity<sup>3</sup>

Antenna type

54 Mbps: -71 dBm, 11 Mbps: -85 dBm , 1 Mbps: -95 dBm

High efficiency dual band antenna with spatial diversity, mounted in the

display enclosure

display enclosure

Form Factor PCI-Express Half-MiniCard

**Weight** 0.013 lb (6 g)

**Dimensions** 0.19 x 1.06 x 1.18 in (4.75 x 26.8 x 30 mm)

Operating Voltage 3.3v +/- 10%

**Temperature** Operating  $14^{\circ}$  to  $149^{\circ}$  F (-10° to 65° C)

Non-operating  $-40^{\circ}$  to  $176^{\circ}$  F ( $-40^{\circ}$  to  $80^{\circ}$  C)

Humidity Operating 10% to 90% (non-condensing)

Non-operating 5% to 95% (non-condensing)

Altitude Operating 0 to 10,000 ft (3,048 m)

Non-operating 0 to 50,000 ft (15,240 m)

Configuration Utility<sup>4</sup> Microsoft Windows XP

Choice of Configuration Utility:

Microsoft Windows XP Wireless Network Connection Manager

Broadcom Wireless Configuration Utility (required for Cisco
 Compatible Estanciana support)

Compatible Extensions support)

Microsoft Windows Vista

Microsoft Windows Vista Wireless Network Connection Manager



HP ProBook 4330s Notebook PC HP ProBook 4430s Notebook PC HP ProBook 4530s Notebook PC HP ProBook 4730s Notebook PC

### Technical Specifications

 Broadcom IHV extensions for Windows Vista available to support Cisco Compatible Extensions.

LED Activity LED Off - Radio OFF; Solid LED On - Radio ON

1. Check latest software/driver release for updates on supported security features.

- 2. Maximum output power may vary by country according to local regulations.
- 3. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CCK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).
- 4. WLAN supplier's client utility is required for Cisco Compatible Extensions support with Microsoft Windows XP. WLAN may also be compatible with certain third-party software supplicants. WLAN supplier IHV extensions required for Cisco Compatible Extensions support for Microsoft Windows Vista.

Bluetooth 2.1 and 3.0 Wireless Technology

**Bluetooth Specification** 2.1+EDR and 3.0+HS Compliant

**Dimensions** 1.18 x 0.26 x 0.13 in (30 x 6.5 x 3.25 mm)

Frequency Band 2402 to 2480 MHz

Number of Available

Channels

79 (1 MHz) available channels

Data Rates and 3 Mbps data rate; throughput up to 2.17 Mbps

Throughput Synchronous Connection Oriented links up to 3, 64 kbps, voice channels

Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric or

1306.9 kbps symmetric

Transmit Power -6 dBm to 4 dBm (Bluetooth Class II)

**Receiver Sensitivity** Better than -80 dBM at 0.1 % raw bit error rate

**Power Consumption** Peak (Tx) 175 mW

Peak (Rx) 160 mW

Sleep < 1 mW

Antenna Internally integrated within module

Range Up 33 ft (10 m)
Electrical Interface USB 2.0 compliant

Microsoft Windows Plug and Play compliant

Bluetooth Software

Supported

Broadcom Bluetooth for Windows Microsoft Windows Bluetooth Software

Link TopologyPoint to Point, Multipoint Pico Nets up to 7 slavesSecurityFull support of Bluetooth Security Provisions

Power Management Microsoft Windows ACPI, and USB Bus Support

Self configurable to optimize power conservation in all operating modes,

including Standby, Hold, Park, and Sniff

**Certifications** All necessary regulatory approvals for supported countries, including:

FCC (47 CFR) Part 15C, Section 15.247 & 15.249

ETS 300 328, ETS 300 826 Low Voltage Directive IEC950

UL, CSA, and CE Mark

**Temperature** Operating -4° to 158° F (-20° to 70° C)

Non-operating  $-40^{\circ}$  to  $176^{\circ}$  F ( $-40^{\circ}$  to  $80^{\circ}$  C)

HP ProBook 4330s Notebook PC HP ProBook 4430s Notebook PC HP ProBook 4530s Notebook PC HP ProBook 4730s Notebook PC

### Technical Specifications

Humidity Operating 10% to 90% Non-operating 5% to 95%

Altitude Operating 15,000 ft (4,572 m)

Non-operating 40,000 ft (12,192 m)

Bluetooth Profiles Serial Port Profile (SPP)

Supported Service Discovery Application Profile (SDAP)

Dial-Up Networking (DUN)<sup>1,2</sup>

Generic Object Exchange Profile (GOEP)<sup>1,2</sup>

Object Push Profile (OPP)<sup>1,2</sup> File Transfer Profile (FTP) Synchronization Profile (SYNC)

Hard Copy Cable Replacement (HCRP)<sup>1,2</sup> Personal Area Networking Profile (PAN)<sup>1,2</sup> Human Interface Device Profile (HID)<sup>1,2,3</sup>

FAX Profile (FAX)

Basic Imaging Profile (BIP)<sup>2</sup> Headset Profile (HSP) Hands Free Profile (HFP)

Advanced Audio Distribution Profile (A2DP)

- 1. indicates the profile is supported by Microsoft Windows XP SP2
- 2. indicates the profile is part of Windows Vista

Realtek 8188GN 802.11b/g/n 1x1 WiFi Adapter Wireless LAN Standards IEEE 802.11b

IEEE 802.11g IEEE 802.11n

Interoperability Wi-Fi certified Frequency Band 2.4 GHz

**Data Rates** 802.11b: 1, 2, 5.5, 11 Mbps

802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps

802.11n: many possible data rates, ranging from 6 Mbps to 150 Mbps, depending on the combination of Bandwidth, Modulation Coding Scheme,

and Guard Interval used, as defined in IEEE 802.11n specification

Modulation Direct Sequence Spread Spectrum

DBPSK, DQPSK, CCK, OFDM, BPSK, QPSK, 16-QAM, 64-QAM

Security<sup>1</sup> Supports 64- and 128-bit WEP, WPA, WPA2, hardware-accelerated AES,

802.1x authentication types EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-

MSCHAPv2, LEAP, EAP-FAST.

Sub-channels Multinational support with frequency bands and channels compliant to local

regulations.

Media Access Protocol CSMA/CA (Collision Avoidance) with ACK

Network Architecture Ad-hoc (Peer to Peer)

Models Infrastructure (Access Point Required)

Roaming IEEE 802.11 compliant roaming between access points



HP ProBook 4330s Notebook PC HP ProBook 4430s Notebook PC HP ProBook 4530s Notebook PC HP ProBook 4730s Notebook PC

### Technical Specifications

Output Power (for CCK)<sup>2</sup> 17 dBm, nominal Output Power (for OFDM; 15 dBm, nominal

power varies by data

rate)<sup>2</sup>

Power Consumption Transmit: 1.5 W (max)

Receive: 1.0 W (max)

Associated to Access Point, Idle: 152 mW nominal

Wireless Button Off: 33 mW nominal

Power Management ACPI compliant power management

802.11 compliant power saving mode

Receiver Sensitivity<sup>3</sup> 54 Mbps: -73 dBm, 11 Mbps: -82 dBm, 1 Mbps: -93 dBm, MCS7 HT20: -

69dBm , MCS7\_HT40: -67dBm

Antenna type High efficiency antenna with spatial diversity, mounted in the display

enclosure

Form Factor PCI-Express Half-MiniCard

**Weight** 0.007 lb (3 g)

**Dimensions** 0.14 x 1.06 x 1.18 in (3.5 x 26.8 x 30 mm)

Operating Voltage 3.3v +/- 9%

**Temperature** Operating  $14^{\circ}$  to  $149^{\circ}$  F (- $10^{\circ}$  to  $65^{\circ}$  C)

Non-operating  $-40^{\circ}$  to  $176^{\circ}$  F (-40° to  $80^{\circ}$  C)

Humidity Operating 10% to 90% (non-condensing)

Non-operating 5% to 95% (non-condensing)

Altitude Operating 0 to 10,000 ft (3,048 m)

Non-operating 0 to 50,000 ft (15,240 m)

LED Activity LED Off - Radio OFF; Solid LED On - Radio ON

- 1. Check latest software/driver release for updates on supported security features.
- 2. Maximum output power may vary by country according to local regulations.
- 3. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CKK modulation) and a packet error rate of 10% for 802.11a/g/n (OFDM modulation).

#### **Environmental Data**

#### **Eco-Label Certifications**

This product has received or is in the process of being certified to the following approvals and may be labeled with one or more of these marks:

- US ENERGY STAR®
- IT ECO declaration
- EPEAT Gold where HP registers commercial notebook products. See http://www.epeat.net for registration status in your country.

#### System Configuration

The configuration used for the Energy Consumption and Declared Noise Emissions data for the Convertible Mini tower Desktop model is based on a "Typically Configured Notebook"



HP ProBook 4330s Notebook PC HP ProBook 4430s Notebook PC HP ProBook 4530s Notebook PC HP ProBook 4730s Notebook PC

### Technical Specifications

HP P	roBook	4430c	Notebook	PC
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Energy Consumption Normal Operation	115 VAC 9.75W	230 VAC 10.19 W	100 VAC 10.32 W
Sleep (Energy Star low power mode)	1.24 W	1.4 W	1.24 W
Off	0.57 W	0.66 W	0.56 W
Heat Dissipation*	115 VAC	230 VAC	100 VAC
Normal Operation	33 BTU/hr	35 BTU/hr	35 BTU/hr
Sleep	4 BTU/hr	5 BTU/hr	4 BTU/hr
Off	2 BTU/hr	2 BTU/hr	2 BTU/hr

<sup>\*</sup> Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour.

#### Declared Noise Emissions (in accordance with ISO 7779 and ISO 9296)

System Fan Off	Sound Power	Sound Pressure
	(LWAd, bels)	(LpAm, decibels)
Idle	3.5	32.2
Fixed Disk	3.8	35.4
(random writes)		

System fan is usually off except when charging the battery

#### **Batteries**

This battery(s) in this product comply with EU Directive 2006/66/EC

Batteries used in the product do not contain:

- Mercury greater the 5ppm by weight
- Cadmium greater than 10ppm by weight

The battery type and chemistry used in the product is:

CR2032 (coin cell), Li-ion

6-cell high capacity Lithium-Ion battery (optional 8 cell available)

### Additional information

This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive - 2002/95/EC.

This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive - 2002/96/EC.

This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986).

This product is in compliance with the IEEE 1680 (EPEAT) standard at the Gold level, see www.epeat.net

Plastics parts weighing over 25 grams used in the product are marked per



HP ProBook 4330s Notebook PC HP ProBook 4430s Notebook PC HP ProBook 4530s Notebook PC HP ProBook 4730s Notebook PC

Technical Specifications

ISO 11469 and ISO1043.

This product contains 0% post consumer recycled plastic (by wt.)

This product is greater than 94.4% recycle-able when properly disposed of at end of life.

#### Packaging Materials

- External:
  - O Corrugated Carton 385 g
  - O Corrugated 115 g
  - O CANON bags Several layers 5 g
- Internal:
  - O Polyethylene low density 15 g
  - O Molded Pulp 180 g
- The Corrugated Carton packaging material is made from 80% recycled content.
- The Corrugated packaging material is made from 80% recycled content
- The CANON bags Several layers packaging material is made from 80% recycled content.
- The Polyethylene low density packaging material is made from 60% recycled content.
- The Molded Pulp packaging material is made from 60% recycled content.

HP follows these guidelines to decrease the environmental impact of product packaging:

- Eliminate the use of heavy metals such as lead, chromium, mercury and cadmium in packaging materials.
- Eliminate the use of ozone-depleting substances (ODS) in packaging materials.
- Design packaging materials for ease of disassembly.
- Maximize the use of post-consumer recycled content materials in packaging materials.
- Use readily recyclable packaging materials such as paper and corrugated materials.
- Reduce size and weight of packages to improve transportation fuel efficiency.
- Plastic packaging materials are marked according to ISO 11469 and DIN 6120 standards.



HP ProBook 4330s Notebook PC HP ProBook 4430s Notebook PC HP ProBook 4530s Notebook PC HP ProBook 4730s Notebook PC

### Technical Specifications

HP	ProBook	4530s	Notebook	PC
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Energy Consumption	115 VAC	230 VAC	100 VAC
Normal Operation	9.29 W	10.44 W	9.23 W
Sleep (Energy Star low power mode)	1.18 W	1.08 W	1.16 W
Off	0.51 W	0.64 W	0.51 W
Heat Dissipation*	115 VAC	230 VAC	100 VAC
Normal Operation	31.7 BTU/hr	35.7 BTU/hr	31.5 BTU/hr
Sleep	4.03 BTU/hr	4 BTU/hr	4 BTU/hr
Off	2 BTU/hr	2.1 BTU/hr	2 BTU/hr

<sup>\*</sup> Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour.

#### Declared Noise Emissions (in accordance with ISO 7779 and ISO 9296)

System Fan Off	Sound Power	Sound Pressure
	(LWAd, bels)	(LpAm, decibels)
Idle	3.5	28.2
Fixed Disk	4.1	33.8
(random writes)		

System fan is usually off except when charging the battery

#### **Batteries**

This battery(s) in this product comply with EU Directive 2006/66/EC

Batteries used in the product do not contain:

- Mercury greater the 5ppm by weight
- Cadmium greater than 10ppm by weight

The battery type and chemistry used in the product is:

CR2032 (coin cell), Li-ion

6-cell high capacity Lithium-Ion battery (optional 8 cell available)

### Additional information

This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive - 2002/95/EC.

This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive - 2002/96/EC.

This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986).

This product is in compliance with the IEEE 1680 (EPEAT) standard at the Gold level, see www.epeat.net

Plastics parts weighing over 25 grams used in the product are marked per



HP ProBook 4330s Notebook PC HP ProBook 4430s Notebook PC HP ProBook 4530s Notebook PC HP ProBook 4730s Notebook PC

Technical Specifications

ISO 11469 and ISO1043.

This product contains 0% post consumer recycled plastic (by wt.)

This product is greater than 95.1% recycle-able when properly disposed of at end of life.

#### Packaging Materials

- External:
  - O Corrugated 115 g
  - O Corrugated Carton 455 g
  - O Canon bag 5 g
- Internal:
  - O Polyethylene low density 15g
  - O Molded pulp 190g
- The Corrugated carton packaging material is made from 80% recycled content.
- The Corrugated packaging material is made from 80% recycled content.
- The Canon Bag packaging material is made from 80% recycled content.
- The Polyethylene low density packaging material is made from 60% recycled content.
- The Molded Pulp packaging material is made from 60% recycled content.

HP follows these guidelines to decrease the environmental impact of product packaging:

- Eliminate the use of heavy metals such as lead, chromium, mercury and cadmium in packaging materials.
- Eliminate the use of ozone-depleting substances (ODS) in packaging materials
- Design packaging materials for ease of disassembly.
- Maximize the use of post-consumer recycled content materials in packaging materials.
- Use readily recyclable packaging materials such as paper and corrugated materials.
- Reduce size and weight of packages to improve transportation fuel efficiency.
- Plastic packaging materials are marked according to ISO 11469 and DIN 6120 standards.



HP ProBook 4330s Notebook PC HP ProBook 4430s Notebook PC HP ProBook 4530s Notebook PC HP ProBook 4730s Notebook PC

### Technical Specifications

HP ProBook 4730s Notebo	SOL PC

Energy Consumption	115 VAC	230 VAC	100 VAC
Normal Operation	9.29 W	10.44 W	9.23 W
Sleep (Energy Star low power mode)	1.18 W	1.08 W	1.16 W
Off	0.51 W	0.64 W	0.51 W
Heat Dissipation*	115 VAC	230 VAC	100 VAC
Normal Operation	32 BTU/hr	36 BTU/hr	32 BTU/hr
Sleep	4 BTU/hr	4 BTU/hr	4 BTU/hr
Off	2 BTU/hr	2 BTU/hr	2 BTU/hr

<sup>\*</sup> Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour.

#### Declared Noise Emissions (in accordance with ISO 7779 and ISO 9296)

System Fan Off	Sound Power	Sound Pressure
	(LWAd, bels)	(LpAm, decibels)
Idle	3.5	29.3
Fixed Disk	3.7	32.1
(random writes)		

System fan is usually off except when charging the battery

#### **Batteries**

This battery(s) in this product comply with EU Directive 2006/66/EC

Batteries used in the product do not contain:

- Mercury greater the 5ppm by weight
- Cadmium greater than 10ppm by weight

The battery type and chemistry used in the product is:

CR2032 (coin cell), Li-ion

6-cell high capacity Lithium-Ion battery (optional 8 cell available)

### Additional information

This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive - 2002/95/EC.

This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive - 2002/96/EC.

This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986).

This product is in compliance with the IEEE 1680 (EPEAT) standard at the Gold level, see www.epeat.net

Plastics parts weighing over 25 grams used in the product are marked per



HP ProBook 4330s Notebook PC HP ProBook 4430s Notebook PC HP ProBook 4530s Notebook PC HP ProBook 4730s Notebook PC

### Technical Specifications

ISO 11469 and ISO1043.

This product contains 0% post consumer recycled plastic (by wt.)

This product is greater than 97.1% recycle-able when properly disposed of at end of life.

#### Packaging Materials

- External:
  - O Corrugated 565 g
  - O CANON bags several layers 5 g
- Internal:
  - O Polypropylene 15 g
  - O Molded pulp 225 g
- The Corrugated packaging material is made from 80% recycled content.
- The CANON bags several layers packaging material is made from 80% recycled content.
- The Polypropylene packaging material is made from 60% recycled content.
- The Molded Pulp packaging material is made from 60% recycled content.

HP follows these guidelines to decrease the environmental impact of product packaging:

- Eliminate the use of heavy metals such as lead, chromium, mercury and cadmium in packaging materials.
- Eliminate the use of ozone-depleting substances (ODS) in packaging materials.
- Design packaging materials for ease of disassembly.
- Maximize the use of post-consumer recycled content materials in packaging materials.
- Use readily recyclable packaging materials such as paper and corrugated materials.
- Reduce size and weight of packages to improve transportation fuel efficiency.
- Plastic packaging materials are marked according to ISO 11469 and DIN 6120 standards.

#### HP ProBook 4330s, 4430s, 4530s, and 4730s Notebook PCs

#### Material Usage

This product does not contain any of the following substances in excess of regulatory limits (for reference of these limits please refer to the HP General Specification of the Environment:

(http://www.hp.com/hpinfo/globalcitizenship/environment/supplychain/gen specifications.html):

- Asbestos
- Certain Azo Colorants
- Certain Brominated Flame Retardants may not be used as flame



HP ProBook 4330s Notebook PC HP ProBook 4430s Notebook PC HP ProBook 4530s Notebook PC HP ProBook 4730s Notebook PC

**Technical Specifications** 

retardants in plastics

- Cadmium
- Chlorinated Hydrocarbons
- Chlorinated Paraffins
- Formaldehyde
- Halogenated Diphenyl Methanes
- Lead carbonates and sulfates
- Lead and Lead compounds
- Mercuric Oxide Batteries
- Ozone Depleting Substances
- Polybrominated Biphenyls (PBBs)
- Polybrominated Biphenyl Ethers (PBBEs)
- Polybrominated Biphenyl Oxides (PBBOs)
- Polychlorinated Biphenyl (PCB)
- Polychlorinated Terphenyls (PCT)
- Polyvinyl Chloride (PVC) except for wires and cables, and certain retail packaging has been voluntarily removed from most applications.
- Radioactive Substances
- Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO)

Nickel finishes that release greater than 0.5  $\mu$ grams/cm2/week, measured according to EN 1811:1998, are not used on any product surface designed to be frequently handled or touched by users.

End-of-life Management and Recycling

Hewlett-Packard offers end-of-life HP product return and recycling programs in many geographic areas. To recycle your product, please go to: http://www.hp.com/go/reuse-recycle or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: http://www.hp.com/go/recyclers. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

Hewlett-Packard Corporate Environmental Information

For more information about HP's commitment to the environment:

Global Citizenship Report

http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html

Environment website

http://www.hp.com/environment

Eco-label certifications

http://www.hp.com/hpinfo/globalcitizenship/environment/productdesign/ecolabels.html

ISO 14001 certificates:

http://www.hp.com/hpinfo/globalcitizenship/environment/operations/envmanagement.html



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### **Technical Specifications**

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